

J A P A N · E C O N O M I C · I N S T I T U T E

J E I

R E P O R T

A Two-Part Report: A and B

NO. 45B
December 1, 1989

	Japan's Current Account Surplus Shrinks	1
	All Quiet On The Yen Front	4
	Washington Watchful On Japanese Construction ...	5
IN THIS ISSUE:	IC Patent Granted To Texas Instruments	6
	Top Soviet Official Seeks Thaw In Japanese-Soviet Relations	8
	Japan And Israel Discuss Ties	10
	Notes: Aid to Eastern Europe; Small Business Telephone Systems	12

Japan's Current Account Surplus Shrinks

Perhaps it's time to change the conventional wisdom about Japan's dollar-denominated current account surplus -- again. The imbalance shrank 23.2 percent in the July-September period, the third straight quarterly double-digit decline from year-earlier levels (Table 1). Such results confound recent thinking that itself reversed the optimism prevalent after the Plaza Accord of September 1985. At that time many experts in Japan and elsewhere expected Japan's current account surplus, which had reached \$35 billion in 1984, to plummet as soon as the "Plaza-engineered" yen appreciation took hold. Within months that thinking appeared overly optimistic despite the fact that the yen continued to rise throughout 1986 and 1987. The 1987 surplus actually was more than double the 1984 level as measured in dollars. Even when the imbalance dropped to \$79.6 billion in 1988, many analysts on both sides of the Pacific began to fear

Table 1: Japan's Balance of Payments

(in millions of dollars)

	<u>Trade Balance</u>	<u>Exports (f.o.b.)</u>	<u>Imports (f.o.b.)</u>	<u>Services (net)</u>	<u>Current Account Balance</u>	<u>Long-Term Capital (net)</u>
1984	\$44,257	\$168,290	\$124,033	\$-7,747	\$35,003	\$-49,651
1985	55,986	174,015	118,029	-5,165	49,169	-64,542
1986	92,827	205,591	112,764	-4,932	85,845	-131,461
1987	96,386	224,605	128,219	-5,702	87,015	-136,532
1988	95,012	259,765	164,753	-11,263	79,631	-130,930
1987: I	23,373	50,515	27,142	-1,348	20,962	-32,209
II	25,038	55,823	30,785	-1,601	22,762	-44,365
III	23,585	56,600	33,015	-1,757	21,189	-22,023
IV	24,390	61,667	37,277	-996	22,102	-37,935
1988: I	21,021	59,345	38,324	-1,337	18,421	-15,142
II	22,448	63,559	41,111	-2,882	18,567	-36,556
III	23,765	65,989	42,224	-3,623	19,052	-42,214
IV	27,778	70,872	43,094	-3,421	23,591	-37,018
1989: I	21,311	66,945	45,634	-3,595	16,064	-5,612
II	19,794	66,560	46,766	-4,892	14,283	-30,801
III(p)	19,668	68,050	48,382	-4,247	14,634	-20,903

Table 2: Japan's Net Purchases of Foreign Securities

(in millions of dollars)

	<u>Bonds</u>			<u>Stocks</u>		
	<u>Purchases</u>	<u>Sales</u>	<u>Net</u>	<u>Purchases</u>	<u>Sales</u>	<u>Net</u>
1984	\$56,348	\$29,575	\$26,773	\$1,570	\$1,519	\$51
1985	291,338	237,859	53,479	5,484	4,489	995
1986	1,346,989	1,253,965	93,024	20,917	13,869	7,048
1987	1,273,829	1,200,944	72,885	70,936	54,062	16,874
1988	1,364,061	1,278,249	85,812	76,560	73,567	2,993
1987: I	377,850	354,648	23,202	13,925	9,386	4,539
II	341,880	316,585	25,295	15,277	9,797	5,480
III	325,517	308,421	17,096	21,882	18,370	3,512
IV	228,582	221,290	7,292	19,852	16,509	3,343
1988: I	332,047	318,877	13,170	18,901	19,467	-566
II	401,293	374,371	26,922	20,518	20,643	-125
III	333,473	307,635	25,838	25,166	23,425	1,741
IV	297,248	277,366	19,882	11,975	10,032	1,943
1989: I	341,774	327,771	14,003	17,724	17,828	-104
II	487,087	461,996	25,091	21,228	15,120	6,108
III(p)	463,493	437,622	25,871	23,602	18,808	4,794

Source: Bank of Japan

that the surplus would never decline as significantly as they had expected in their Plaza Accord euphoria.

Earlier this year the hopes that were so high in the fall of 1985 had disappeared almost entirely. Japan's current account surplus actually appeared to be growing. Worse, the yen began depreciating, dimming the prospects for further progress. Yet, as soon as pessimism became the conventional wisdom, the direction of the current account took the optimistic turn indicated most recently.

Part of the explanation, of course, is the infamous J-curve, named for the swing that trade imbalances may take following a currency revaluation. Borrowing a leaf from the 1986 and 1987 arguments of the optimists, pessimists have suggested that the decline of the yen in 1989 has made Japan's exports look weaker than they actually are, thereby giving an exaggerated view of the decline in the surplus. According to this argument, the surplus will start to rise again shortly even without further yen depreciation. Partly as a reflection of this thinking, many analysts expect the full-year surplus to drop significantly in 1989 but to grow again in 1990. Nomura Research Ltd., for example, sees Japan's current account falling to \$65.7 billion in 1989 but rising to \$71.1 billion in 1990.

Yet even this twist is not the end of the story. Many Japanese experts looking further into the future see the surplus heading lower for somewhat different reasons. In this view, as Japanese direct investment abroad in manufacturing continues to rise, the effects on the trade balance and the current account surplus will become much more pronounced. The investment surge in 1988 and 1989 has created a demand for products from Japan to build factories while displacing few Japanese exports since the foreign plants use a high percentage of Japanese components. Over the longer term the percentage of domestic content in offshore production will rise, Japanese exports will be displaced and some goods will even be imported to Japan from the plants. In short, the effect on the surplus will be increasingly favorable over time even if direct investment flows remain at present levels. Reportedly some researchers have calculated that foreign direct investment in manufacturing will cut Japan's trade surplus, which totaled \$95 billion last year, by as much as \$58.3 billion in FY 1993. Presumably the effect on the current account surplus, which includes profits on overseas investment, will be somewhat smaller.

Given the less than stellar history of forecasting current account balances even a few quarters ahead, such long-range estimates have to be treated with considerable caution. But the argument does serve to show the increasingly complex trade flows involving Japan. With different rates of economic growth in Japan and abroad, J-curve effects, delayed pricing responses to exchange rate changes and the effects of investment all playing important roles, few should be surprised that the conventional wisdom concerning the direction of Japan's current account surplus has shifted more than once since 1985.

Not only trade flows but capital flows, too, are difficult to forecast accurately. Collectively, as the means of financing trade, public and private short- and long-term capital flows equal the current account balance except for a relatively small statistical discrepancy. Japanese net purchases of foreign stocks and bonds between July and September remained at approximately the levels of a year earlier (Table 2). The reduction in the net capital outflow from Japan that accompanied the year-to-year decline in the current account surplus

was accounted for by much larger net flows of short-term funds into Japan and larger net foreign purchases of Japanese stocks and bonds. Of the \$21.3 billion year-to-year reduction in the net long-term capital outflow shown in Table 1, \$13.1 billion resulted from larger foreign purchases of Japanese bonds. If this result were to become a trend, reductions in the current account surplus would not necessarily lead to a commensurately smaller Japanese presence in U.S. and other overseas capital markets but rather a larger foreign presence in Japanese markets.

Douglas Ostrom

All Quiet On The Yen Front

Events in Eastern Europe may be threatening to turn international economic relations upside down this fall, but one unexpected island of stability has emerged: the yen-dollar exchange rate. Since late summer it has been stuck in the lower Y140=\$1.00 range. The U.S. and Japanese currencies have been relatively stable against each other in contrast to their status vis-a-vis the currencies of Western Europe. West Germany, closest to the upheaval on many fronts, has seen its Deutsche mark surge against both the yen and the dollar. At the end of August a Deutsche mark fetched about Y74, but by November 24 it was worth almost Y80. The British pound and the Swiss franc showed smaller gains against the yen.

Analysts, including Satoshi Sumita, the governor of the Bank of Japan, attributed the Deutsche mark's strength to the belief among currency traders that the West German economy is likely to receive an economic boost from East German trade, leading to higher interest rates that would tend to create a capital inflow and a demand for Deutsche marks. Mr. Sumita also commented on the yen's own prospects, suggesting that BOJ continues to worry about inflation and is waiting for the effects of the October 11 boost in the discount rate to work its influence on the Japanese economy. Higher interest rates are supposed to induce Japanese funds to stay at home, thereby suppressing the demand for the dollar and other foreign currencies and leading the yen higher or at least stemming a decline. In BOJ's view inflationary pressures would ease because aggregate demand would be reduced and because imports would be lower priced than otherwise.

Data through October hint that BOJ has taken comparable actions in the currency market by leaning against dollar appreciation. After peaking at over \$100 billion at the end of May, foreign exchange reserves have declined every month, reaching \$84 billion at the end of October. The reduction in the reserves, widely interpreted as indicative of a move to create an artificial demand for yen in currency markets, comes in stark contrast to the tripling of Japan's reserves between early 1986 and earlier this year when BOJ was often involved in efforts to keep the yen's rise from running amok.

The quiet on the yen-dollar front may not last once the events of the fall are fully digested. In the United States, despite official efforts to discourage such speculation, the Federal Reserve Board is widely expected to loosen money, building on monetary relaxation earlier this year. In Japan some large Japanese bond issuers, such as electric power companies and Nippon Telegraph and Telephone Corp., reportedly are shifting their bond fund-raising to foreign markets. NTT and the utilities have found few domestic buyers for

and is deliberating how best to use these islands for the benefit of both the Soviet Union and Japan. Only time will tell whether Moscow is sincere in its desire to break this deadlock in a manner beneficial to both countries or simply trying to hoodwink Tokyo so it can tap Japan's enormous wealth.

Barbara Wanner

Japan And Israel Discuss Ties

Israeli Foreign Minister Moshe Arens met with Japan's top leaders in early November to discuss Middle East peace prospects and ways to improve bilateral links. Mr. Arens and Foreign Minister Taro Nakayama agreed to establish a consultation mechanism that would help strengthen bilateral relations -- rocky since Japan sided with Arab nations after Israel's Six-Day War in 1967 -- and facilitate discussions on the Middle East peace issue. The first such meeting is scheduled for early 1990. More specific details about the types of issues to be discussed within this framework have not yet been announced.

In the Middle East Japan traditionally has had closer ties with Arab countries than with Israel. Tokyo has considered it a priority to ensure a supply of oil from the region, especially since the oil shocks of the 1970s. Many Japanese corporations have not dealt with Israeli companies due to possible Arab backlashes, such as being cut off from contracts. While Japan's trade with Israel is less than that with most Middle East nations (see JEI Report No. 22B, June 10, 1988), it has increased dramatically over the past five years. Exports to Israel more than doubled between 1984 and 1988 and imports more than tripled over the same period (see Table 1). Japan, however, gives very little aid to Israel and what it does give is all in the form of technical cooperation. In 1988 that amounted to \$380,000 (see Table 2).

Table 1: Japan's Trade with Israel, 1984-88

(in millions of dollars)

<u>Year</u>	<u>Exports</u>	<u>Imports</u>	<u>Trade Balance</u>
1984	\$173.5	\$190.8	\$17.3
1985	170.4	214.9	44.4
1986	274.9	322.4	47.5
1987	346.0	481.2	135.1
1988	420.4	684.5	264.0

Source: Japan Tariff Association

Since Japan enjoys good relations with the Arab nations, Israel hopes that Tokyo can persuade those nations to develop a more friendly attitude toward Jerusalem. There are, however, points of contention between Israel and Japan, including Japan's support of a Palestinian homeland and backing for negotiations that include representatives of the Palestine Liberation Organization. Prime Minister Toshiki Kaifu reinforced those points in his meeting with Mr. Arens. Stressing the importance of achieving regional peace, Mr. Kaifu suggested the necessity of trading land for peace. The prime minister also told

Table 2: Japan's Foreign Aid To Israel, 1984-88

(in thousands of dollars)

<u>Year</u>	<u>Grants</u>		<u>Loans</u>	<u>Total</u>
	<u>Grant Aid</u>	<u>Technical Cooperation</u>		
1984	--	\$170	--	\$170
1985	--	180	--	180
1986	--	340	--	340
1987	--	360	--	360
1988	--	380	--	380

Source: Ministry of Foreign Affairs

Mr. Arens that it probably is unrealistic for Israel to refuse to negotiate a peace settlement with PLO representatives. PLO leader Yasir Arafat was an informal guest of the Japanese government earlier this fall when he also met with Mr. Kaifu and Mr. Nakayama.

Israel's position is that the Palestinians already have a homeland in Jordan, where they comprise a large portion of the population, so it is unnecessary to negotiate a second homeland. "A Palestinian state would be a danger to our very existence," an Israeli diplomat told the press in Japan.

In what seemed to be a significant breakthrough, however, Israel in early November conditionally accepted a proposal by Secretary of State James Baker for peace talks between Israeli and Palestinian representatives with U.S. and Egyptian coordination. Israel has specified that the PLO be excluded from the talks and that only the possibility of elections in the territories occupied since the 1967 war be discussed. If Egypt accepts the conditions, representatives of the three countries would meet in Washington as a precursor to direct Israeli-Palestinian talks likely to take place in Cairo. Israel would like to limit voting for a Palestinian representative only to residents of the West Bank and the Gaza strip, excluding Palestinians living outside these territories. Another complication affecting the proposed dialogue has been an indication by the PLO that it does not want to participate in such talks. The United States continues to press Egypt, however, to persuade the PLO to acquiesce to preliminary talks between Israel and other Palestinian representatives.

The visit to Tokyo by Mr. Arens is seen as an indication that ties between the two countries are slowly increasing. Official visits have been scarce. Then Vice Prime Minister Yitzhak Shamir visited Tokyo in 1985 and former Foreign Minister Sosuke Uno made a stop in Israel in June 1988 during a tour of the Middle East. Although there may be a thaw in relations, experts do not expect quick progress.

Through increased dialogues with the regional players, Japan may be assuming a role in world politics more in line with its economic power. But, since Israel is still considered of key interest to the United States, analysts expect Washington to take the lead in mediating a peace settlement in the Middle East. Japan, however, may be able to use its influence to help nudge the process forward.

Gretchen Green

DEC

8

1989 / A

J A P A N · E C O N O M I C · I N S T I T U T E

JEI

R E P O R T

A Two-Part Report: A and B

NO. 46A

December 8, 1989

JAPAN'S TELECOMMUNICATIONS MARKET: 1989 UPDATE

Summary

Almost five years after Tokyo implemented major regulatory reforms, Japan's telecommunications market has been changed significantly by the proliferation of private common carriers and secondary service providers. Despite the entry of new firms, the domestic and international common carrier markets still are dominated by the former government-owned monopolies -- Nippon Telegraph and Telephone Corp. and Kokusai Denshin Denwa Co., Ltd., respectively. Nevertheless, price competition is intense between the ex-monopolies and the new common carriers. Friction with trading partners, particularly the United States, over telecommunications also has not completely vanished in the wake of the 1985 reforms. These situations have generated sharp domestic debate about further restructuring of the telecommunications market and revisions of telecommunications policy.

1985: A Brave New World

Until April 1, 1985 Japan's telecommunications market was structured as a monopoly because the government thought that a strong central authority was the most efficient way to address the central issues of telecommunications policy. Prior to World War II the rapid construction of a telecommunications infrastructure was the focus; rebuilding and modernization were the main objectives after the war. In 1952 Nippon Telegraph and Telephone Public Corp. was given a monopoly over the domestic communications market, while Kokusai Denshin Denwa Co., Ltd. had total control over Japan's international communications links. By 1980 NTT had achieved its goals of eliminating its backlog of telephone installation orders and implementing nationwide direct-dial service. KDD

also had achieved by this time its main goal of building a full range of global communications links.

At the start of this decade, therefore, both NTT and KDD had lost a major *raison d'être*. Tokyo, however, felt that a monopoly structure for the international telecommunications market still was useful because a single national authority simplified negotiations with international telecommunications organizations, such as the International Telecommunications Union. This logic did not apply to NTT, which users and policymakers alike viewed as increasingly unresponsive to customers and slow to implement new technology. Domestic makers of telecommunications gear and foreign providers of enhanced telecommunications services also sought to broaden their market by advocating telecommunications deregulation.

Across the Pacific the move toward deregulation of the American telecommunications market undoubtedly served as a model for Japanese policymakers. They watched with great interest the 1984 breakup of American Telephone and Telegraph Co. into a long-distance carrier and several regional carriers. Privatization of government monopolies was also a part of then Prime Minister Yasuhiro Nakasone's drive to reduce the size and improve the efficiency of government. Final recommendations by the ad hoc Commission on Administrative Reform proposed in 1983 that NTT, Japan Tobacco and Salt Public Corp. and the Japanese National Railways be reorganized into private ventures. A year of debate produced a plan divided into two main parts -- the privatization of the domestic government telecommunications monopoly and the entry of private firms into the telecommunications services market.

NTT Privatization - Dropping the word "Public" from its official name, NTT shifted on April 1, 1985 from its public enterprise status to being a joint stock corporation. The new NTT was capitalized at Y780 billion (\$5.6 billion at Y140=\$1.00), far above the Y18.8 billion (\$134.3 million) capitalization at its inception in 1952. Initially, the government held all 15.6 million NTT shares. Tokyo pledged to put at least one-half and as much as two-thirds of NTT stock into private hands by 1992. (Foreigners are not allowed to own shares, however.) After three releases of NTT stock between 1986 and 1988, 5.3 million shares are in the hands of an estimated 1.5 million private investors.

Although the government still must approve the new NTT's budget and business plan, the procedure is simpler than the old requirement to secure Diet approval. Still obliged to provide nationwide telephone service and conduct research and development in telecommunications, NTT now has gained the ability to change its service rates (with authorization from the Ministry of Posts and Telecommunications) and the freedom to invest in areas other than telecommunications. Finally, the board of directors is elected by the shareholders rather than appointed by MPT, although the ministry's authorization still is necessary for any board changes.

NTT, although privatized, continues to adhere to the terms of a procurement pact negotiated by the United States and Japan in 1981. Extended through 1989 (see JEI Report No. 42B, November 14, 1986) and expected to be renewed

again, the agreement facilitates equipment bids from foreign suppliers and makes NTT's long-term equipment and technology development programs open to them. In fact, NTT's president has stated repeatedly that the firm will buy the best products regardless of their national origin.

Market Deregulation - The legislation mandating reform specifies two types of telecommunications businesses. Firms that build or own their own telecommunications circuit facilities are classified Type I. These firms must obtain MPT's permission to begin and cease operations as well as to change their tariff schedules. They also must heed any government orders to amend tariff rates, to "improve business activities" and to "interconnect or share telecommunications facilities." Foreign control of Type I firms is not permitted.

All other telecommunications firms are classified Type II. This does not mean Type II firms cannot be common carriers. Companies can rent or lease circuits from a Type I firm and provide voice/data services to the general public on a nationwide scale. These services for "many and unspecified persons with large-scale networks" are considered Special Type II firms. All others are General Type IIs. Special Type IIs must register with MPT to begin operations, but need only notify the ministry if they intend to go out of business or change rates. General Type IIs are expected to notify MPT of their plans in all instances. All Type II firms are subject to government oversight.

Reagan administration trade negotiators, anxious to ensure that American suppliers of telecommunications equipment and services had the same access to Japan's soon-to-be-open market as their Japanese competitors, were active participants in the 1984 deregulation debate. Keeping up the pressure as Tokyo moved from the planning stage to the implementation phase of the deregulation process, Washington used the 1985 MOSS (market-oriented, sector-selective) talks to push for the greatest possible degree of national treatment for foreign firms and minimum government control over the deregulated market.

One of the most difficult areas for Japan and the United States to negotiate was telecommunications terminal equipment standards and approval. MPT, in its traditional role as guarantor of telecommunications quality and satisfaction to the Japanese consumer, sought to establish strict standards across a broad range. U.S. negotiators wanted just the opposite: limiting MPT's role to insuring only that terminal equipment does not harm the network. They contended that all other performance and appearance standards were unnecessary. MPT eventually agreed to the majority of Washington's requests. Technical standards were reduced from 53 to 21. The private Telecommunications Technology Committee, to which foreign firms also belong, was established in October 1985 to draft all subsequent standards. The Japan Approvals Institute for Telecommunications Equipment was founded as an independent testing and certification body to approve equipment from all companies (including NTT); it agreed to accept foreign test data for approval purposes.

A related issue of concern, which the United States brought up during the MOSS negotiations, was transparency in the standards-drafting process and in the approval procedure. To make MPT's administrative and policy processes

more open Japanese employees of foreign-affiliated companies were invited to participate in MPT's advisory councils, including the ministry's Telecommunications Council and the private TTC. In addition, MPT pledged to continue working toward greater transparency. The ministry also plans to improve the distribution of information to foreign firms as well as continue to seek their opinions.

Cellular (mobile) telephone service, which relies on wireless transmission, was outside the realm of the deregulation legislation, but the United States initiated discussions within the MOSS framework on amendments to the Radio Law in an effort to liberalize this lucrative NTT monopoly. Complicating factors were Tokyo's previous allocation of portions of the radio spectrum in a way distinct from that used in the United States and NTT's use of a cellular telephone format that was different from the U.S. standard. The latter situation meant that foreign firms would have to alter their equipment for sale in Japan, which they were reluctant to do. MPT thus asked the TTC to examine whether Japanese and foreign standards could coexist. The council reported in April 1986 that this was technically feasible.

MPT then agreed to amend the Radio Law effective July 1, 1986 to allow foreign firms to obtain a license to operate a private radio facility for mobile communications on land. Based on modest market growth projections, however, MPT calculated that the domestic market for cellular telephone service could support only a limited number of providers. Because the choice of equipment was left to each provider, Washington was very interested in ensuring that applicants proposing to use foreign equipment were given an equal opportunity. After extensive negotiations, the ministry proposed to divide the country into two service zones; only NTT and one other private firm would be allowed to compete in each zone. While this idea was welcomed at the time in Washington, it proved to be only a temporary solution. (Recent developments in the cellular telephone market will be discussed below.)

Equipment standards outlined by the Radio Facilities Technical Compliance Certification System were simplified and limited to those necessary to "avoid interference with other users" and to encourage "the efficient use of frequencies." The previous minimum of 10 standards was reduced to one with the nine others becoming voluntary. Approval procedures followed by the Radio Equipment Technical Certification Institute also were simplified, and foreign test data became acceptable.

Outside the MOSS framework Tokyo took two steps specifically aimed at encouraging imports of foreign products. As part of a July 30, 1985 market liberalization package, tariffs on five items -- telephone instruments (4.2 percent), telegraph equipment (3.6 percent), electronic switches (5.7 percent), current-carrier equipment (3.6 percent) and radio communications equipment (4 to 5.1 percent) -- were eliminated at the end of 1986. In addition, special depreciation rates and tax exemptions were introduced for imported mechanical or electronic products to encourage small businesses to broaden their purchasing practices. In contrast to the normal first-year depreciation allowance of 30 percent, small firms can depreciate 36 percent of the cost of qualified imported items. Moreover, buyers of imported high technology equipment qualify for an 8.4 percent tax exemption as opposed to 7 percent for domestic products.

A Market Unbound

Japan's telecommunications market has surprised both users and policy-makers with its enthusiastic response to the new regulatory environment. In some respects, such as the degree of competition in particular segments, the Japanese market has surpassed its U.S. counterpart; in other areas Japan has lagged. The proliferation of services and providers has led to cutthroat price competition and a boom in most, but not all, forms of telecommunications consumption (see Table 1).

Table 1: Summary Statistics of Japan's Telecommunications Market

	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988
<u>Service Subscriptions (thousands)</u>					
Home Telephones	30,206	31,152	32,075	33,139	34,362
Office Telephones	13,336	13,709	14,250	14,837	15,542
Subtotal	43,542	44,861	46,325	47,976	49,904
Car Telephones	40.4	62.1	95.1	120.8	323.1
Radio Pagers	1,886.0	2,155.9	2,487.9	2,836.7	n.a.
Telegraph	33.9	36.0	33.9	33.3	n.a.
Facsimile	18.2	46.3	85.2	148.1	297.8
Leased Circuits	498.6	534.3	574.9	661.2	747.0
High-Speed Data	n.a.	n.a.	4.2	5.5	n.a.
Circuit Switching	2.7	4.0	5.2	5.9	n.a.
Packet Switching	6.6	14.2	27.8	40.7	n.a.
<u>Domestic Communications Volume (millions)</u>					
Telephone	57,000	63,200	71,800	80,000	n.a.
Telegram	41.7	40.7	40.1	41.0	41.5
Electronic Mail	0.6	2.9	5.0	4.9	n.a.
<u>International Communications Volume (millions)</u>					
Telephone, Sent	34.7	48.6	68.9	96.1	129.1
Telephone, Received	33.8	45.6	65.3	92.2	123.0
Telegram	1.9	1.5	1.2	1.0	n.a.
Telex	52.1	50.1	43.8	24.2	n.a.
Leased Circuits (number)	961	1,067	1,149	1,244	n.a.

Source: Ministry of Posts and Telecommunications

Telephone - The number of telephone subscribers had reached nearly 50 million by the end of 1988, about 40 subscribers for every 100 persons. At the start of the decade the saturation rate hovered in the low 30s after a spurt in the 1960s and 1970s. Between 1970 and 1975, the height of the boom, 14.6 million subscribers signed up. As NTT caught up with demand the increase fell to 7.3 million between 1976 and 1980 and to 6.4 million in the following five years. With one more year to go in the 1986-90 period it appears that the number of new users -- given the upward trend in the annual rate of increase -- will be slightly higher since just over 5 million new lines already had been added by the end of 1988. In keeping with the growth in telephone subscriptions the number of domestic calls also is moving up. This figure, however,

outstrips the rate of increase for new subscribers, meaning that people are making more calls than ever before.

- **Cellular** - Although mobile telephones have been available in Japan since 1979 and pocket pagers since 1969, the market's potential remained largely untapped until 1985. By the end of that year cellular telephone service had expanded to 473 cities from one in 1979 and to 61,786 users from 1,557 six years earlier -- in effect more than doubling every year. As of March 31, 1989 well over 240,000 subscribers had tapped into nationwide service. Although not as spectacular, the growth of paging receivers averaged 14.3 percent in fiscal 1985 for a total number in use of approximately 2.2 million, 15.4 percent in FY 1986 (2.5 million) and 14 percent in FY 1987 (2.8 million), according to MPT estimates. Advances in electronic miniaturization are expected to give a boost to both the cellular telephone and pocket pager markets.

- **International** - Given Japan's burgeoning global ties in trade and finance, the ballooning volume of international communications is no surprise. Measured by both calls made and calls received, the market has more than quintupled since 1982. While U.S. demand for transpacific services also has jumped in recent years, analysts point to the Japanese penchant for consensus-style management as the source of the skyrocketing volume in international telecommunications. Globalization of Japan's mass media, particularly newspapers, also has contributed to the upsurge in demand. All of Japan's major dailies transmit stories around the globe by satellite. Foreign editions containing exactly the same stories that appear in Japan that day often are marked "satellite edition." It is no wonder, then, that the international communications market has attracted private competitors.

Telegraph - Usage of this communications medium has suffered as a result of the boom in telephone and similar data communications services. The numbers of telegrams and telexes sent domestically and internationally have been on the wane for many years. Telegraph operators' recent efforts to distinguish their service from that of competitors have included offering telegrams that look like greeting cards, are custom-designed for special occasions or include music or a recorded voice message. Only time will tell if these value-added services can halt the decline of this format's popularity.

Leased circuits - Driven by the computerization of Japanese industry and finance, a domestic part of this market has grown from 500,000-plus leased circuits in FY 1985 to 747,000 by the end of FY 1988. In addition to the leasing income, however, providers generate additional revenues from related consulting and management services. High-speed digital leased circuits have been a particularly bright spot, with the average growth of new leases hitting 40 percent in FY 1988. Competition is fierce as many private firms have flocked to the leased-circuit market.

Data/digital services - This market has developed rapidly as manufacturers, financial institutions, tertiary industries and the government have computerized or digitized operations. Custom data communications services linking banks and credit bureaus with retailers or a distributor's network of warehouses with its delivery vehicles are increasingly common. Government agencies, such as the Japanese Patent Office, are taking advantage of the technological advances to design a "paperless" patent application and processing system.

Digital circuit and packet-switching services are benefiting from the explosion in demand for high-capacity data and facsimile transmissions. The number of digital data service subscribers more than doubled in FY 1988, topping 130,000. With new options, such as ISDN (integrated services digital network), rapidly becoming available nationwide the digital services market is expected to continue its sharp expansion.

Other services - Demand for videotex, facsimile and video conference services is growing, but unevenly. Calls for special facsimile services, such as high-volume, multi-recipient or confidential transmission, are increasing briskly, with about 100,000 new service contracts signed annually over the past two fiscal years. The videotex market, dominated by NTT's CAPTAIN (Character and Pattern Telephone Access Information Network), has enjoyed only moderate growth since its introduction in 1984. It is likely that videotex will be absorbed by ISDN since ISDN offers every feature of videotex and many others to boot. Video conferencing has been the slowest to take off, mainly because the cost remains relatively high. Yet, as construction of so-called intelligent buildings (which have integral and integrated video, computer and communications systems) increases and as advances are made in the manufacture of video and transmission equipment, demand should rise as costs fall.

The Contenders

The influx of private service providers generates much of the new vitality in Japan's telecommunications market. In some markets the impact of deregulation was immediate, but in others it has taken several years for competition to come on-line.

As defined by the Telecommunications Business Law, private service providers fit into one of two categories:

Type I carriers - As mentioned above, a Type I firm can provide any kind of service but must own its transmission facilities. Currently 40 firms, including NTT and KDD, have received MPT's approval as Type I carriers and have begun operations (see Table 2).

- Domestic long-distance services - This group includes three terrestrial transmission firms and two companies using satellite linkups. The terrestrial companies -- Daini Denden Inc., Japan Telecom Co., Ltd. and Teleway Japan Corp. -- have focused their attention on the heavily populated areas incorporating Tokyo, Osaka, Kyoto and Hiroshima. Tokyo's role as the center of government and private business activity makes it critical to each firm. Within a year of initiating operations in 1986 by offering leased circuits, all three expanded into long-distance telephone service. Their prime marketing tool is prices cheaper than NTT's. For example, a 3-minute call made in 1987 between Tokyo and Osaka cost Y400 (\$2.86) if placed through NTT but only Y300 (\$2.14) if made through one of the new common carriers.

Although NTT has fought to close the price gap, the NCCs are confident that they can undercut the ex-monopoly and remain profitable. The latest financial figures support this boast. All three firms more than doubled their sales and posted sharply higher profits in the first half of FY 1989 than in the April-September 1988 period. Daini Denden earned a net profit of Y5.4 billion (\$38.6 million) on sales of Y39.5 billion (\$282.1 million). Japan Telecom had

Table 2: New Type I Telecommunications Carriers

<u>Company</u>	<u>Service*</u>	<u>Area of Operation</u>	<u>Operation Date</u>
<u>Long Distance Services</u>			
Daini Denden Inc.	T, LC	Tokyo, Aichi, Osaka, Hiroshima, Fukuoka, Miyagi	9/4/87 (T) 10/24/86 (LC)
Japan Telecom Co., Ltd.	T, LC	Tokaido, Sanyo, Tohoku and Joetsu bullet train lines	9/4/87 (T) 8/1/86 (LC)
Teleway Japan Corp.	T, LC	Tokyo-Nagoya and Osaka-Nagoya expressways	9/4/87 (T) 11/11/86 (LC)
<u>Satellite Services</u>			
Japan Communications Satellite Co., Inc.	LC	All areas	5/89
Space Communications Corp.	LC	All areas	7/8/89
<u>Regional Services</u>			
Tokyo Telecommunications Network Co., Ltd.	T, LC	Kanto area	5/1/88 (T) 11/1/86 (LC)
Tube Telecommunications Co., Ltd.	LC	Aichi, Gifu, Mie, Shizuoka	6/1/88
Osaka Mediaport Co., Ltd.	LC	Osaka, Kyoto, Hyogo, Shiga, Nara and Wakayama	3/1/87
Lake City Cablevision Co., Ltd.	LC	Suwa, Osaka and others	12/1/87
<u>International Telecommunications</u>			
International Telecom Japan Inc.	T, LC	All areas	10/1/89 (T) 4/1/89 (LC)
International Digital Communications Inc.	T, LC	All areas	10/1/89 (T) 5/1/89 (LC)
<u>Mobile Telephone Service</u>			
Nippon Idou Tsushin Co., Ltd.	T (car)	Tokyo, Kanagawa, Saitama, Chiba, Ibaraki, Aichi, Mie and Gifu	12/31/88
Kansai Cellular Telephone Co., Ltd.	T (car)	Osaka, Kyoto, Hyogo, Shiga, Nara and Wakayama	4/1/88
Tokyo Bay Marine Telecommunications Co., Ltd.	T (ship)	Tokyo Bay and vicinity	9/1/88
Railway Communications Co., Ltd.	T (rail) LC	Nationwide except Nara, Saga and Okinawa prefectures	4/1/87
<u>Radio Paging Services</u>			
23 firms		All areas	

*T = Telephone, LC = Leased Circuit

Source: Ministry of Posts and Telecommunications

sales of Y34.3 billion (\$245 million) and net profits of Y1.9 billion (\$13.6 million). Teleway Japan's results were the least impressive with sales of Y10.9 billion (\$77.8 million) and net profits of Y0.1 billion (\$714,300).

The NCCs complain that MPT is restraining their efforts to expand their areas of service. Because they must pay a fee to access NTT's local telephone network for every call made through their long-distance lines they also complain that the more business they win, the more they have to pay NTT. These and other competitive issues have become part of the debate over NTT's future (discussed below).

Two companies began offering nationwide communications services via satellite this year (see JEI Report No. 45A, December 1, 1989). Japan Communications Satellite Co., Inc. and Space Communications Corp. each have one satellite in operation and a second scheduled for launch in the near future. JCSAT has 32 transponders on its Hughes Aircraft Co. satellite, while SCC's Ford Aerospace Corp.-built satellite has 29 transponders. Although MPT predicts that by 2004 eight communications satellites with 400 transponders will be serving Japan and generating Y200 trillion (\$1.4 trillion) in sales, the two firms face a tough fight. In Japan satellites do not have the clear advantage over ground-based communications links that they do in the United States because of the country's relatively small geographic size and its highly concentrated population. The two firms also have a credibility problem to overcome. Neither firm can provide absolute guarantees of when their satellites will be operational since they are dependent on foreign launch services and the competition for space is stiff. SCC also experienced transmission problems with its first satellite soon after it went into operation, making customers wary.

● Regional telephone services - This is one area where consumers in Japan enjoy a greater degree of competition than in America. At least four firms compete with NTT for intracity services. There also are signs that several city governments are considering entering the market, laying communications cables in municipal water and sewer system lines.

The market for mobile telephone services also is a hot topic in Japan. Two private firms -- Nippon Idou Tsushin Co., Ltd. (known as IDO or Japan Mobile Communications Co., Ltd.) and Kansai Cellular Telephone Co., Ltd. -- compete with NTT in two distinct regions. IDO, which is backed by Toyota Motor Corp., has the more lucrative Tokyo-Nagoya zone and uses equipment based on NTT's protocol. KCT, which is backed by Daini Denden, offers equipment from Motorola Inc., Toshiba Corp. and Oki Electric Industry Co., Ltd. using both NTT and U.S. protocols.

A U.S.-Japan accord on cellular telephone service, reached in June (see JEI Report No. 26B, July 7, 1989), will stoke the intense competition to install new base stations and add service zones by allowing KCT to offer limited service in the Tokyo-Nagoya corridor. KCT's introduction of Motorola's Micro TAC (total access communications) telephone -- currently the smallest and lightest unit in the world -- has added to the booming demand for cellular phones. Observers predict that demand will skyrocket when prices start to come down. NTT, which has the highest rate structure, charges Y230,000 (\$1,643) to obtain the equipment and initiate service, another Y15,000 (\$107) a month as a basic service fee, and actual calling charges of Y10 (\$.07) for every 6.5 seconds for calls up to 100 miles (which works out to about Y300 (\$2.14) for a 3-minute intracity call compared to the normal Y10 3-minute charge).

The pocket pager market is even more crowded, with 23 private companies vying with NTT. Paging devices no bigger than a fountain pen or a credit card are typical weapons in the new competition. Declining charges for paging services are a principal marketing tool, leading some observers to predict that a shakeout will come shortly as margins become razor thin.

- **International communications** - This market segment currently is undergoing rapid change. After four years of preparation International Telecom Japan Inc. and International Digital Communications Inc. began battling KDD earlier this year, but they are taking different tacks. ITJ, backed by major Japanese trading companies, banks and manufacturers, is following a conservative program by focusing initially on leasing high-speed digital circuits to its backers in strong markets. ITJ presently offers circuits linking Japan with the United States, South Korea, Taiwan, Hong Kong, Singapore and Australia. The firm hopes to have linkages with a total of 21 countries, including Europe, as soon as possible. To reduce the cost of providing nationwide access to its overseas network, ITJ is exploring ties with domestic providers, such as NTT or its competitors.

IDC, which is backed by Toyota, C. Itoh & Co., Ltd., Britain's Cable & Wireless Plc, and America's Pacific Telesis International Inc., among others, leases overseas circuits and is trying to establish a market position by offering services on submarine optical fiber cables that it laid in cooperation with others. In May IDC began leasing circuits between Japan and the United States, Canada, Hong Kong and Singapore. Links to Great Britain, West Germany and South Korea were opened two months later, and IDC hopes to provide service to another 11 countries by 1990.

Both IDC and ITJ compete with KDD mainly on price -- their rates are 20 to 40 percent cheaper than KDD's. As of mid-1989 the newcomers had leased a combined 120 circuits. In an effort to gain an edge ITJ is promoting custom solutions to user needs, while IDC is touting the benefits of its fiber optic network for long-distance digital or facsimile communications. In addition to their leased circuits, both firms initiated international telephone service October 1, further expanding competition. Although no official figures are in, each firm says it is near its initial target of a 10 percent market share. With a 15 percent share targeted over the next three years, the competition is just beginning.

Type II firms - These firms can offer any kind of service but only by using communications circuits owned by a Type I company. Within this category are two subdivisions. Special Type II companies offer services "for an unspecified number of general subscribers" with a network capacity above 500 circuits capable of 1,200 bits per second or offer international communications services using other companies' equipment. General Type II companies offer services outside the definition of Special Type II. This open-ended category has allowed large and small firms to provide a wide array of enhanced telecommunications services, including value-added networks.

- **Special Type II** - As of November 1988 Special Type II carriers that had registered with MPT numbered 23 (see Table 3). In addition to offering data communications services, eight also offer voice services, and another nine offer image or other complex transmission services. Fourteen firms offer international VANS as well as domestic VAN services. At least 11 of the group have a

Table 3: Special Type II Telecommunications Carriers

(as of November 30, 1988)

<u>Company</u>	<u>Services*</u>	<u>Registration Date</u>	<u>Foreign Share</u>
Intec Corp.	V, I, D	4/19/85	9.6%
Fujitsu, Ltd.	D	4/19/85	7.5
Japan Information Service Ltd.	D, IVAN	4/19/85	
NEC Corp.	V, I, D, C, IVAN	4/19/85	11.6
Hitachi Information Network Ltd.	D, IVAN	4/19/85	
United Net Corp.	V, I, D, C	5/24/85	
Japan ENS Corp.	V, D, IVAN	7/17/85	50.0
Ok! Network Service	V, I, D, IVAN	7/31/85	
Network Information Service Co., Ltd.	V, I, D, IVAN	11/25/85	25.24
Internetwork Inc.	D	10/15/86	
Nippon Information and Communication Corp. (NI+C)	V, I, D	7/20/87	50.0
Japan Global Van Inc.	I, D, IVAN	9/29/87	
Nomura Computer System Co., Ltd.	D, IVAN	10/9/87	
Mitsui Knowledge Industry Co., Ltd.	D, IVAN	10/19/87	
IBM Japan Ltd.	D, IVAN	10/27/87	100.0
Nihon Keizai Shimbun Inc.	I, D, IVAN	10/31/87	
Toyo Information System Co., Ltd.	D	11/27/87	
INES Corp.	D	3/30/88	10.8
NI+C International Corp.	D, IVAN	5/18/88	59.5
NTT Data Communications Systems Corp.	D, C	6/29/88	
Mitsubishi Electric Corp.	V, I, D	8/23/88	4.1
Information Services International-Dentsu, Ltd.	D, I, IVAN	9/5/88	
K-Network International Inc.	D, IVAN	11/17/88	5.0

*V=voice, I=image, D=data, C=complex, IVAN=international value-added network.

Source: Ministry of Posts and Telecommunications

foreign backer; in two cases the Type II firm is a 50-50 venture, while in two others foreign investors have a controlling interest.

● General Type II - By the end of 1988 MPT had been notified by 635 firms of their intent to offer services as General Type II carriers. About two-thirds (433) said they planned to provide data communications services. Another 192 companies indicated they would offer voice communications; less than 200 firms hoped to engage in more complex services (97 image and 81 complex transmissions.) (A number of businesses indicated they would provide multiple services.) MPT officials, however, expect that up to half of these firms have gone or will go bankrupt or that they never became fully operational because of high start-up costs and intense competition. Nevertheless, services such as electronic mail or networks linking a company's global operations have proved popular.

The Type II market initially was seen as highly lucrative and broad enough to support a large cast. In FY 1987 one private industry organization

estimated the market's worth at Y350 billion (\$2.5 billion). Now, however, price competition in some services, particularly where NTT or KDD are players, has reduced margins to almost nothing. NTT, for example, charges Y0.4 to Y0.6 to switch a 128-byte data packet through its network. KDD charges Y2 to Y2.4 per 64-byte packet switched through its international circuits. The only way smaller firms can compete with NTT and KDD is to offer prices significantly below these levels. Yet these small companies, if anything, are faced with higher start-up costs than either NTT or KDD and usually have much shallower pockets.

In other markets demand has lagged supply. The resale or lease of circuits for dedicated applications was expected to be a cash cow for Type II firms after market liberalization in 1985. Since then, however, competition has been so intense that this segment is unprofitable. (While the rate structures of Special Type II companies are subject to MPT approval, charges set by General Type II firms are not. Rate "dumping" is reportedly a common occurrence in some market segments.) Firms are focusing increasingly on providing unique software or services in an effort to stay afloat in this cutthroat market. This strategy, however, requires significant human and computer resources that not all firms can afford.

The Defending Champions Respond

Although still criticized as slow-moving mammoths, both NTT and KDD have been trying to adjust to the new situation. In some respects the two titans face restraints. MPT tries to assure, for example, that NTT and KDD both charge at least 20 percent more than private competitors for most services so that the two will not be able to use their still dominant market positions to crush new-born private competitors. In other ways the two have been allowed to meet competitors head-on. By spinning off its data communications operations NTT instantly made NTT Data Communications Systems Corp. a major factor in that market and one of great concern to private competitors; as a subsidiary, NTT Data would be even less subject to MPT regulation than its parent.

KDD - The impact of private competition on KDD's business strategy is unmistakable. By yearend 1986 it was clear that KDD would face two determined private competitors. Although it had been cutting rates since 1979, KDD began to increase the size of the reductions in an effort to nip the competition in the bud. After small reductions of 3 to 6 percent, KDD asked MPT in 1988 for permission to cut rates an unheard-of average of 21.1 percent effective that September -- the sharpest reduction in KDD's history. On November 1, 1989, just one month after ITJ and IDC began handling overseas calls, KDD again cut its rates on all overseas services by an average of 14.3 percent. The consequences for revenues are obvious. After enjoying steady growth since its establishment in 1953 (total sales were up 6 percent in FY 1988 to Y263 billion or \$1.9 billion), KDD issued in November revised estimates for the current fiscal year, showing a tiny 1 percent gain in total sales and a 23 percent plunge in expected net profits. It also reported that sales for the first six months of FY 1989 were off 4.5 percent to Y132.1 billion (\$943.6 million) and profits were down 36.9 percent to Y18.8 billion (\$134.3 million) due to the September 1988 rate slash.

After matching the latest cut, the new private competitors howled that the reduction was unfair; it was too large and came too soon after they had begun full operations, they said. KDD's management has been unrepentant, saying

that it already could see customers deserting. It also pointed out that, unlike ITJ or IDC, KDD must maintain full services to unprofitable areas. All three firms know, however, that the price war can go only so far.

KDD, therefore, is focusing on upgrading and diversifying its services. For example, under its Link-plus payment system, KDD acts as an agent for Japanese subscribers in arranging and paying for leased circuits controlled by AT&T and British Telecommunications Plc. KDD also is expanding its digital services in cooperation with AT&T and BT. The three hope eventually to offer a seamless global ISDN network. Moreover, KDD is examining a broad range of individualized services to maintain client loyalty.

NTT - The domestic giant is accelerating changes in the bread-and-butter telephone market. Among its new popular offerings are Free Dial, which is similar to toll-free 800 numbers in the United States; Message Dial, which allows callers to leave recorded messages for others; Dial Q2, an electronic bulletin board service; and Hello Dial, which provides travel, dining and hotel information. In most cases these services are free. NTT clearly is aiming to earn revenue from the increased number of calls rather than from the services themselves.

NTT has advanced by 10 to 15 years its plan to convert the nation's telephone network to a completely digital system. Conversion by the year 2000 would make it possible for NTT to offer ISDN services nationwide. The first wide-area commercial ISDN service, INS-Net 64, became available in the Tokyo, Osaka and Nagoya areas in April 1988. In June of this year NTT greatly expanded its ISDN capacity with INS-Net 1500, a 1.5 megabit-per-second service. By April next year NTT plans to offer INS-Net 1500 in 29 areas around 14 major cities.

NTT also has moved into the VAN market with ANSER (Automatic Answer Network System for Electrical Requests), used in financial transactions, and CAFIS (Credit and Finance Information System), used by credit approval services. It has fine-tuned its F-net facsimile network service, improved its CAPTAIN videotex system and brought out new services, such as HEART (Higher Education Articulation Support System), which provides students with information on colleges and universities.

Diversification plays a major part in NTT's new business agenda. The giant firm has spun out or set up over 130 subsidiaries at home and abroad. While many provide telecommunications-related services, such as the communications consulting service offered to foreigners by NTT International Corp. and the previously mentioned NTT Data Communications, other subsidiaries are completely unrelated to NTT's core business. While these firms help NTT broaden its revenue base, they also help absorb excess employees.

NTT long has been criticized as inefficient and overly bureaucratic. Since 1985 the firm has struggled to reduce its workforce from 314,000. Its 270,000-employee payroll as of September was achieved mainly by not replacing retiring workers (about 9,000 a year) and by transferring 3,600 employees to new subsidiaries. NTT management recently issued a plan to shave another 40,000 workers over the next five years by holding down new hiring and increasing transfers to subsidiaries. Even after this reduction many analysts say NTT still will be inefficient.

Drawing on its well-developed research and development resources (NTT operates a number of laboratories modeled after AT&T's Bell Laboratories), NTT has tried to increase its rate of technological innovation to outpace its new competition. More practical video conferencing equipment, specialized facsimile equipment and smaller, lighter cellular telephones and pocket pagers have been pouring out of NTT's labs. In many cases, however, NTT still finds itself catching up to private competitors that offer innovative foreign equipment (Kansai Cellular Telephone's Micro TAC, for example). NTT has responded by redoubling its research efforts as well as incorporating foreign technology whenever it is advantageous.

In fact, NTT's purchases of foreign products continue to grow, hitting Y41.4 billion (\$295.8 million) in FY 1988, a 9.2 percent increase. The gain is actually understated because NTT Data Communications, which was spun out in FY 1988, is a major purchaser of foreign gear. If the purchases of NTT and its subsidiary are combined, the total rises to Y46.8 billion (\$334.3 million), a 23.5 percent gain. NTT originally was forced to court foreign suppliers under the provisions of a 1981 U.S.-Japan agreement on NTT procurement. Tokyo renewed the three-year agreement once while NTT was a public monopoly. The privatized NTT extended the pact through the 1987-89 period, and management has indicated a willingness to adhere to the accord after it expires at the end of this year.

Trade in Telecom Gear

The balance between Japan's exports and imports of telecommunications gear has been decidedly in Japan's favor for the past several years, both in overall terms and from a bilateral viewpoint (see Tables 4 and 5). The deregulation of Japan's telecommunications market was supposed to smooth the path for foreigners' sales. The yen's appreciation since September 1985 also was supposed to help by putting a cap on Japan's exports. While imports have grown, exports in dollar terms have shown signs only recently of falling back.

Through 1988 the yen's rise seemed to have no influence on Japanese exports of telecom gear. Exports of nearly every item grew in 1988 in dollar terms compared with the year before. Beginning in 1986, however, imports showed a very positive response to the stronger yen. Because exports are still many times imports, Japan's trade imbalance in this area continues to expand, by a margin of 36.7 percent in overall terms and 30.6 percent vis-a-vis the United States in 1988.

Data for the first seven months of 1989 provide a glimmer of hope. Dollar-denominated exports are down from the levels recorded in the January-July 1988 period. In some cases the decline is significant, but the nearly across-the-board trimming of exports is equally important. Since imports continued to rise in 1989, the surplus declined. Whether this narrowing will become a trend is unclear.

Frictions

The United States is not alone in its concerns about Japan's telecommunications trade and policy. Europe also has complained, mainly about alleged dumping of telephone equipment and facsimile gear. But frictions with the United States have been on the rise. Briefly, Washington and Tokyo have tangled over the following issues:

Table 4A: Japan's Total Exports of Telecommunications Equipment, 1984-89

(in thousands of dollars*, f.o.b. value)

	1984	1985	1986	1987	1988**	January- July 1988	January- July 1989
Key Telephone Systems	\$70,052	\$69,129	\$68,860	\$79,082	\$89,026	\$49,433	\$52,037
Electronic Telephone Switchboards and Exchanges	158,770	179,158	276,459	329,153	419,091	250,502	213,574
Other Telephone Switchboards and Exchanges	21,094	16,103	17,330	7,153			
Desk and Wall Telephone Instruments	165,278	114,669	155,025	103,688	89,157	57,887	48,847
Other Telephone Instruments	175,749	157,355	161,665	218,949	356,943	184,313	138,875
Intercom Systems	16,610	15,858	18,562	18,947	18,493	10,244	9,025
Other Telephone Apparatus	16,619	10,168	7,561	7,263	7,829	4,097	5,189
Telephone Parts	599,764	449,631	586,137	563,663	675,530	385,509	439,468
Current Carrier Line Systems	164,763	270,624	298,741	350,135	529,505	322,054	225,357
Facsimile Equipment	297,061	510,278	719,867	1,611,767	2,811,826	1,497,095	1,561,307
Teleprinters	0	0	0	0	7,729	4,459	2,882
Citizen-Band Radios	21,101	19,224	21,989	21,969	22,644	13,889	4,816
Other Radios	530,077	582,893	770,912	901,320	873,048	506,983	509,706
Radio Telephone Receivers	120,670	131,964	121,003	161,243	235,976	126,722	141,096
Radio Amplifying Tubes	9,199	7,741	9,489	9,220	465	248	195
Radio Parts	1,121,307	1,153,853	1,599,576	1,498,346	918,739	525,275	573,621
Communications Cable	90,690	142,796	177,037	89,416	43,904	24,283	26,494
Optical Fibers	0	0	0	0	159,036	108,621	40,865
Total Exports	3,578,804	3,831,442	5,010,213	5,971,314	7,258,941	4,071,614	3,993,354

Table 4B: Japan's Exports of Telecommunications Equipment to the United States, 1984-89

(in thousands of dollars*, f.o.b. value)

	1984	1985	1986	1987	1988**	January- July 1988	January- July 1989
Key Telephone Systems	\$26,871	\$28,053	\$30,440	\$34,054	\$21,293	\$11,733	\$14,523
Electronic Telephone Switchboards and Exchanges	37,908	18,098	23,744	21,464	28,191	17,496	20,332
Other Telephone Switchboards and Exchanges	10,194	941	0	14			
Desk and Wall Telephone Instruments	127,347	80,478	112,491	51,955	25,853	18,059	12,163
Other Telephone Instruments	149,248	123,452	122,021	176,342	248,974	122,195	98,991
Intercom Systems	4,389	5,129	5,147	5,869	5,167	2,715	2,163
Other Telephone Apparatus	9,833	4,639	2,206	2,395	1,860	838	1,742
Telephone Parts	420,953	266,346	309,348	279,809	287,237	171,460	184,254
Current Carrier Line Systems	68,245	152,759	176,567	170,597	319,346	198,707	136,039
Facsimile Equipment	167,267	290,016	253,939	568,385	984,555	487,269	536,496
Teleprinters	0	0	0	0	32	31	0
Citizen-Band Radios	8,058	5,970	6,341	7,389	4,539	3,483	714
Other Radios	247,413	225,748	248,526	340,986	273,858	172,375	139,787
Radio Telephone Receivers	76,416	74,146	53,249	83,547	96,316	54,604	55,395
Radio Amplifying Tubes	2,490	2,118	2,236	2,008	112	46	76
Radio Parts	437,921	427,545	467,222	414,227	244,441	131,951	181,290
Communications Cable	6,215	7,471	11,831	14,525	7,298	4,361	17,882
Optical Fibers	0	0	0	0	95,129	66,852	5,863
Exports to the United States	1,800,768	1,712,909	1,825,308	2,173,566	2,644,201	1,464,175	1,407,710

*The following average annual exchange rates were used to convert the yen export figures: 1984, Y236.95; 1985, Y240.29; 1986, Y169.99; 1987, Y145.90; 1988, Y128.15; January-July 1988, Y128.89; and January-July 1989, Y135.74.

**In 1988 Japan switched its classification system from the Customs Cooperation Council Nomenclature to the Harmonized Commodity Description and Coding System. Therefore, the product categories for 1988 and 1989 do not always match exactly those for earlier years.

Source: Ministry of Finance, Japan Exports and Imports: Commodity by Country.

Table 5A: Japan's Total Imports of Telecommunications Equipment, 1984-89

(in thousands of dollars*, c.i.f. value)

	1984	1985	1986	1987	1988**	January- July 1988	January- July 1989
Electronic Telephone Switchboards and Exchanges	\$7,404	\$10,242	\$18,507	\$38,827	\$75,062	\$44,574	\$63,355
Other Telephone Switchboards and Exchanges	44	125	0	0			
Other Telephone Apparatus	11,433	17,747	20,319	45,564	66,470	36,914	61,213
Telephone Parts	46,860	63,608	83,210	101,570	141,107	74,702	91,742
Current Carrier Line Systems	21,015	26,748	36,898	44,567	67,453	34,376	50,154
Facsimile Equipment	879	2,357	8,030	6,494	5,783	1,483	3,687
Teleprinters	0	0	0	0	460	192	710
Radios Other Than Citizen Band	30,060	9,420	12,915	22,934	30,102	22,774	23,492
Radio Telephone Receivers	0	0	0	0	51,109	31,259	23,353
Radio Amplifying Tubes	4,429	4,555	6,735	6,241	3,223	2,052	1,923
Radio Parts	51,646	68,892	72,286	112,119	220,377	126,704	161,129
Total Imports	173,770	203,694	258,900	378,311	661,146	375,120	480,758

Table 5B: Japan's Imports of Telecommunications Equipment from the United States, 1984-89

(in thousands of dollars*, c.i.f. value)

	1984	1985	1986	1987	1988**	January- July 1988	January- July 1989
Electronic Telephone Switchboards and Exchanges	\$6,927	\$9,813	\$14,799	\$33,612	\$69,530	\$41,935	\$56,884
Other Telephone Switchboards and Exchanges	7	4	0	0			
Other Telephone Apparatus	4,365	6,848	3,112	5,224	5,595	2,854	10,925
Telephone Parts	43,253	59,267	78,372	87,435	105,005	59,603	56,309
Current Carrier Line Systems	17,774	23,680	27,076	28,931	50,694	24,356	36,247
Facsimile Equipment	616	1,806	4,444	5,379	4,916	1,229	2,191
Teleprinters	0	0	0	0	252	55	612
Radios Other Than Citizen Band	22,303	6,119	8,201	12,331	13,095	11,177	14,667
Radio Telephone Receivers	0	0	0	0	46,498	29,327	20,884
Radio Amplifying Tubes	3,693	3,603	2,049	3,907	2,799	1,803	1,607
Radio Parts	10,613	13,958	12,943	14,763	120,671	69,609	86,897
Imports from the United States	109,551	125,098	150,996	191,582	419,055	241,948	287,223

*The following average annual exchange rates were used to convert the yen export figures: 1984, Y236.95; 1985, Y240.29; 1986, Y169.99; 1987, Y145.90; 1988, Y128.15; January-July 1988, Y128.89; and January-July 1989, Y135.74.

**In 1988 Japan switched its classification system from the Customs Cooperation Council Nomenclature to the Harmonized Commodity Description and Coding System. Therefore, the product categories for 1988 and 1989 do not always match exactly those for earlier years.

Source: Ministry of Finance, Japan Exports and Imports: Commodity by Country.

● Trade balance/NTT procurement policy - Despite reduced exports of particular telecommunications items and increased sales of U.S. products to Japan, Washington remains unhappy with the persistent bilateral trade deficit in telecommunications products. Congress, American business leaders and academics have lumped telecommunications equipment with semiconductors, computers and other electronics into a group of technologies critical to America's economic health and national security. Until the trade deficit is narrowed sharply, telecommunications equipment will continue to stir the overall bilateral trade debate.

● Telephone dumping - In response to a complaint filed by AT&T and Comdial Corp. in December 1988, the Commerce Department agreed that the two major Japanese manufacturers of small business telephone systems were selling these products in the United States at unfairly low prices. Commerce's dumping margins for the Japanese suppliers were 137 percent and 179 percent (see JEI Report No. 40B, October 20, 1989). After hearing testimony from AT&T and the foreign manufacturers, the International Trade Commission split 3 to 3 on whether the dumping hurt American makers of key systems and low-end private branch exchanges. Because the petitioner is given the benefit of the doubt when a tie vote occurs, small business systems imported from Japan now will be liable to stiff antidumping duties (see JEI Report No. 45B, December 1, 1989).

Most observers predict that the penalties will not force up prices of low-end PBXs or key systems, both because U.S. distributors hold large inventories and the two Japanese competitors have switched production of all or some of these items to their U.S. subsidiaries. The fact that market-leader AT&T felt compelled to file its first ever antidumping complaint is indicative of the high level of competition. Some Americans decry the growing foreign share of the estimated \$44 billion U.S. telephone equipment market as a threat to the nation's long-term economic health.

● Super 301 - Primarily to appease congressional ire over the persistent trade deficit with Japan, the administration cited Japan as a priority country for negotiations under the Super 301 provision of the 1988 trade act (see JEI Report No. 22B, June 9, 1989). The Bush administration listed three areas for negotiations: wood products, supercomputers and satellites. Washington is worried that Tokyo's policy preventing purchases of foreign satellites by government agencies eventually will threaten America's edge in satellite technology (see JEI Report No. 45A, December 1, 1989). Tokyo agreed in 1985 to allow private companies to purchase communications satellites directly from American manufacturers. Both JCSAT and SCC took immediate advantage of this change. Washington says that it has no problem with Japan doing satellite research but that it should give foreigners the opportunity to compete in all segments of the market. Because only a few satellites are needed to saturate the domestic market, some Americans fear that Tokyo is building up a domestic industry to enter the export market.

● Cellular telephones - This subject has surfaced twice in recent years: as part of the 1985 MOSS talks and as a solo in 1989. The latest flare-up actually stemmed from a post-MOSS solution that divided the country into two service zones and allowed only one private competitor and NTT in each zone. The Japanese firm using Motorola equipment wanted to serve users that roamed into the Tokyo-Nagoya corridor. However, MPT was unwilling to allow the crossover by reallocating the necessary radio frequencies. Under pressure from Motorola,

which saw a chance to boost its sales in Japan, Washington eventually badgered MPT into allowing limited cross-zone service (see JEI Report No. 26B, July 7, 1989). The resolution of this issue left a sour taste in Tokyo's mouth, however, and could complicate future negotiations.

What Future for NTT

The atmosphere surrounding bilateral telecommunications equipment and services is important because it could influence how Tokyo responds to the five-year review of the law that made NTT a private company. If the law is to be renewed, action must be taken in FY 1990, which starts April 1, 1990. The debate extends beyond the company, however, since any reforms that apply to NTT have a good chance of being applied to KDD as well. Unlike many other policy debates in Japan, this one is taking place in public with several government agencies and private groups participating.

In a nutshell, dissatisfaction with the current situation boils down to NTT's continued domination of the marketplace. Realistically, it would be too much to expect the infant private competition to quickly wrest a significant share of the market away from NTT if for no other reason than it takes time to construct a nationwide communications network. Moreover, some government and private observers fear that NTT will use the dominant position it inherited to relegate private competition to a small portion of the market, eventually leading to market stagnation. Critics still rebuke NTT for being insensitive to customer needs and insufficiently innovative. The proliferation of nontelecommunications subsidiaries also irritates some who feel they divert NTT's attention from its primary responsibilities. In addition, critics charge that NTT has failed to rationalize its operations and cut its overhead costs because it has not really been subjected to sufficiently strong competition.

The debate over NTT's fate really began in 1982 when a government advisory panel's recommendations for reducing the size of the government and making it more efficient included the idea of breaking the giant firm into as many as 10 regional firms. The 1984 breakup of AT&T served as a model, and a warning, when Japanese policymakers drafted the reform that left NTT intact but allowed private firms to enter the market. Denationalization was meant to expose NTT to the forces of competition without causing the chaos and confusion that gripped the American market when AT&T was split into a long-distance provider and several regional service companies.

In some ways, Japanese competitors enjoy advantages their American counterparts do not. Tokyo forces NTT to keep its prices higher than the new carriers so that NTT cannot use its huge resources to overwhelm the new competitors. Japanese consumers were not forced to select a single long-distance carrier during the transition as was the case in the United States. Instead, callers select which carrier they want to use each time they make a call by dialing a special prefix code. Therefore, the level of competition increases, since neither NTT nor the new carriers can lock in customers. Despite all this, NTT (and KDD) continue to hold a daunting share of the market.

Government and private groups studying this situation began issuing reports and recommendations this past summer. Predictably, camps quickly formed at opposite poles with one staking out the middle ground; one side urged that nothing be done, the other advocated radical restructuring and the group in the

middle proposed some reforms. What is interesting, however, is the makeup of each group.

The "status quo" group includes Keidanren (the Federation of Economic Organizations, which represents major Japanese companies), the current management of NTT, NTT's labor unions and the Japan Socialist Party, which traditionally has been allied with NTT's unions. Keidanren argues that it is too early to decide whether NTT should be broken up and suggests a three-year hiatus during which the real level of competition can be assessed. In fact, Keidanren members -- composed of a wide range of communications users and providers -- cannot agree over the best path to take at this juncture. Keidanren does feel that NTT and KDD should be allowed to compete against one another in each other's market, something currently prohibited.

NTT's management and workers are happy with the current situation, suggesting that there is sufficient competition from the new common carriers and that breaking up NTT surely would force up the cost of service. The self-preservation instinct is to be expected. The Japan Socialist Party is important to the debate because it controls the upper house of the Diet in a coalition with other opposition parties. Since legislation changing NTT is neither a spending bill nor a treaty (both of which at a minimum need only lower house approval), the upper house's cooperation becomes necessary. With its ties to NTT's unions, the JSP will likely oppose any attempt to radically change NTT.

The middle group includes Japan's Fair Trade Commission and the Japan Telecommunications Industries Federation. Both contend that, while NTT is deficient in certain respects, a breakup is either unnecessary or potentially disastrous. A JFTC report is cognizant of the potential for abuse inherent in NTT's current dominant position and urges some spin off, such as cellular telephone and satellite communications. In addition, it recommends that Tokyo should ensure fair allocation of radio frequencies and that NTT provide full information to private firms about its protocols and standards to ensure equal access. Tokyo also should deregulate the market further to encourage still more competition, JFTC suggests. Nevertheless, JFTC also says that too much competition will confuse consumers and could lead to other forms of abuse. JTIF takes a similar stance, saying that some parts of NTT should be separated out but that preserving efficient nationwide telephone service means NTT should be left basically intact.

The "radical reform" group includes the Ministry of Posts and Telecommunications, the Liberal Democratic Party, NTT's private competitors and some foreigners. MPT argues that the past five years have shown that NTT cannot reform itself. An advisory panel to the ministry has devised three options: divide NTT into several regional entities; bifurcate NTT into a long-distance company and an intracity service company; or carve up NTT into a long-distance company and from two to 11 intracity companies. The panel added that while the last option would give the biggest boost to competition, it also probably would be the costliest and most disruptive. While criticism from the new common carriers is to be expected, the vociferous comments from the LDP are somewhat surprising.

An LDP research council has blasted NTT's failure to streamline its operations, cut costs and pass the benefits on to consumers. NTT also is accused of wasting its time with its broad diversification program. Hiroshi

Mitsuzuka, chairman of the LDP Policy Affairs Research Council, strongly favors a breakup. Pointing to the almost miraculous recovery of the deficit-ridden Japanese National Railways after it was split into several private companies, Mr. Mitsuzuka said a breakup was the only way to bring true competition to the market. A visiting official from BellSouth Corp., one of the regional service firms created by the restructuring of AT&T, added his voice to the radical reform group, saying that the long-term benefits of breaking up NTT -- better service, lower charges, more research and development and more products -- will outweigh the short-term costs.

Other factors complicate the debate as well. Tokyo has pledged to sell up to two-thirds of its NTT shares. Auction of the shares has turned out to be a gold mine for the national treasury and has helped the Ministry of Finance both to cut the budget deficit and finance new spending programs. Beyond the question of how to convert NTT shares into the new shares of post-NTT companies, talk of breaking up NTT has shaken investor confidence in the stock. In the wake of Mr. Mitsuzuka's comments, for example, the price of a NTT share dropped Y30,000 (\$214) to Y1.38 million (\$9,857). Budget planners, already worrying about how to replace revenues if the unpopular 3 percent general consumption tax is revised, cannot be happy about the possibility that the NTT golden goose will be sold. Another question is: if NTT is broken up, what happens to the U.S.-Japan accord encouraging foreign procurement? Washington would certainly demand something as a replacement, but how can Tokyo force cooperation from private companies that would be created by a breakup of NTT? Further entanglements are posed by the volatile political situation caused by the Recruit Co., Ltd. influence-peddling scandal and the LDP's loss of control of the upper house of the Diet.

Outlook

In many respects Tokyo can be proud of its actions to deregulate and streamline Japan's telecommunications equipment and services market. Private competitors have jumped into nearly every market, and users have benefited from a broader range of services and lower prices. Tokyo realizes, however, that the situation is not optimal; many changes that had been predicted have yet to materialize. For foreign telecommunications vendors, in particular, the Japanese market remains a tough nut to crack. A great deal hinges on the outcome of the debate over NTT's future and whether the LDP can win Diet approval of the necessary implementing legislation.

For further information, contact Jon Choy.

* * * * *

The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.